

REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claim 1 has been amended to recite a modified cyclic aliphatic polyamine having an ethyleneamino moiety represented by $\text{-NH-CH}_2\text{-CH}_2\text{-R}$, wherein R represents an alkenyl residue selected from the group consisting of styrene and divinylbenzene. Support for this amendment can be found on page 7, lines 11-15 of Applicants' specification. As stated in the prior Amendment and Rule 1.132 Declaration (both filed July 21, 2006), since the modified cyclic aliphatic polyamine of Applicants' claims is obtained by the reaction between an amino group (-NH_2) of a cyclic aliphatic polyamine and an alkenyl group ($\text{CH}_2=\text{CH-}$) of an alkenyl compound, it inevitably has an ethyleneamino moiety ($\text{-NH-CH}_2\text{-CH}_2\text{-}$). Additionally, as a natural result of the reaction, the ethyleneamino moiety is necessarily represented by $\text{-NH-CH}_2\text{-CH}_2\text{-R}$, wherein $\text{-CH}_2\text{-CH}_2\text{-R}$ represents the residue of the alkenyl compound. According to Applicants' amended claim 1, the alkenyl compound is selected from the group consisting of styrene and divinylbenzene, and as a result, the alkenyl compound residue is styrene residue or divinylbenzene residue.

As also stated in the prior Amendment, MPEP 2163.07(a) states that if the claimed subject matter inherently has a certain property, amending the application to recite that property can be achieved without introducing new matter. Thus, for the reasons stated above, the amendment to claim 1 does not constitute new matter.

Claim 3 has been amended to be consistent with amended claim 1.

The allowance of claims 8-11 is noted, with appreciation.

The rejection of claims 1-7 and 27-33 as being indefinite under 35 U.S.C. § 112, second paragraph is respectfully traversed.

The Examiner takes the position that the above-recited claims are indefinite because it is not clear which cyclic aliphatic polyamine the Applicant is claiming. The Examiner requires Applicants to show the general structure of the cyclic aliphatic polyamine in claim 1 in order to allow the Examiner to examine the claim.

Applicants respectfully disagree with the Examiner's position.

MPEP 2173.02 states that claims must be analyzed, not in a vacuum, but in light of (a) the content of the particular application disclosure, (b) the teachings of the prior art,

and (3) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. As discussed by Applicants' representative in the telephone conversation with the Examiner on August 16, 2006, the specification contains examples of structures of modified cyclic aliphatic polyamines. The Examiner then indicated that he had new prior art. Thus, the Examiner's assertion that claim 1 must include a general structure in order to allow the Examiner to examine the claims is unfounded.

Furthermore, MPEP 2173.04 states that the breadth of a claim is not to be equated with indefiniteness. Additionally, MPEP 2173.05(t) states that a claim to a chemical compound is not indefinite merely because a structure is not presented. Chemical compounds may be claimed by a name that adequately describes the material to one skilled in the art. A compound may also be claimed in terms of the process by which it is made without raising an issue of indefiniteness.

For these reasons, Applicants' claims 1-7 and 27-33 are not indefinite, and the above-rejection should be withdrawn.

The patentability of the present invention over the disclosures of the references relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

Thus, the rejection of claims 1-7 under 35 U.S.C. § 102(b) as being anticipated by JP 58017452, Kao Soap Co., Ltd. (JP '452); as well as the rejection of claims 1-7 and 27-33 under 35 U.S.C. § 103(a) as being unpatentable over JP '452 are respectfully traversed.

Regarding claims 1-7, the Examiner states that the reference teaches Applicants' claimed compounds, and since Applicants have claimed a product by way of a product-by-process claim, the Examiner has not given patentable weight to the process step. Regarding claims 1-7 and 27-33, the Examiner takes the position that the compound of JP '452 differs from the instantly claimed cyclic aliphatic polyamine in that the compound of the reference is a subgenus of Applicants' claimed cyclic aliphatic polyamine.

Initially, the Examiner's position to not give patentable weight to the process step is improper. MPEP 2113 states that the structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the

product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. Thus, the Examiner should consider Applicants' recited process step in determining patentability.

However, as stated above, Applicants have amended claim 1 to require that the alkenyl residue is selected from the group consisting of styrene and divinylbenzene. JP '452 discloses "N1-ethyl-1,5,5-trimethyl-1,3-cyclohexanediamine". However, this compound does not have an ethyleneamino moiety ($\text{-NH-CH}_2\text{-CH}_2\text{-R}$), wherein the $\text{-CH}_2\text{-CH}_2\text{-R}$ represents an alkenyl compound residue selected from the group consisting of styrene and divinylbenzene. JP '452 does not teach or suggest any compounds which have the ethyleneamino moiety required by Applicants' independent claim 1, and dependent claims 2-7.

Regarding claims 27-33, the rejection set forth by the Examiner does not specifically address the process claims. Specifically, Applicants' claim 27 recites a process for preparing a modified cyclic aliphatic polyamine comprising subjecting a cyclic aliphatic polyamine and an alkenyl compound to addition reaction, wherein the number of carbon atoms in a molecule of the cyclic aliphatic polyamine is at least nine, the number of amino groups in a molecule of the cyclic aliphatic polyamine is at least two, and the number of active hydrogen atoms derived from the amino groups is at least three. The cited reference does not teach or suggest the process recited in Applicants' claims 27-33.

For these reasons, the subject matter of claims 1-7 and 27-33 is clearly patentable over JP '452.

The rejection of claims 1-7 under 35 U.S.C. § 102(b) as being anticipated by Wenning, EP 972786, is respectfully traversed.

The Examiner takes the position that Wenning discloses Applicants' claimed compounds.

Wenning discloses some isophoronediamine derivatives such as " β -alanine, N-[(5-amino-1,3,3-trimethylcyclohexyl)methyl]-,1,1-dimethylethyl ester". However, none of the compounds disclosed by Wenning has an ethyleneamino moiety ($\text{-NH-CH}_2\text{-CH}_2\text{-R}$) wherein $\text{-CH}_2\text{-CH}_2\text{-R}$ represents an alkenyl compound residue selected from the group consisting of styrene and divinylbenzene, as required by Applicants' amended claim 1.

Thus, the subject matter of claims 1 to 7 is clearly patentable over Wenning.

The rejection of claims 1-7 under 35 U.S.C. § 102(b) as being anticipated by Komoto et al., JP 48036298, is respectfully traversed.

The Examiner takes the position that Komoto et al. disclose Applicants' claimed compounds.

Komoto discloses "Cyclohexaneethanediamine, 5-amino-1,3,3-trimethyl." However, this compound does not have an ethyleneamino moiety ($-\text{NH}-\text{CH}_2-\text{CH}_2-\text{R}$) wherein $-\text{CH}_2-\text{CH}_2-\text{R}$ represents an alkenyl compound residue selected from the group consisting of styrene and divinylbenzene, as required by Applicants' amended claim 1. Komoto does not teach or suggest a compound having the above-mentioned ethyleneamino moiety.

Thus, the subject matter disclosed in claims 1 to 7 is clearly patentable over Komoto et al.

Therefore, in view of the foregoing amendments and remarks, it is submitted that each of the grounds of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

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